

R E M A R K S

The last Office Action has been carefully considered.

It is noted that Claim 9 is rejected under 35 USC 102(b) over the British patent document to Muetschele, et al.

Claim 9 is rejected under 35 USC 103(a) over the patent document to Muetschele, et al in view of the U.S. patent application publication to Bongers-Ambrosious, et al.

Claims 13-14 and 16 are rejected under 35 USC 103(a) over the U.S. patent to Frauhammer, et al.

Also, the claims are rejected under 35 USC 112.

After carefully considering the Examiner's grounds for rejection of the claims over the art and for formal reasons, applicants amended the corresponding claims and cancelled Claim 18 without prejudice.

It is respectfully submitted that the new features of the present invention as defined in the claims clearly and patenably distinguish the present invention from the prior art applied by the Examiner against the original claims.

Turning to the Examiner's rejection of Claim 9 under 35 USC 102(b) over the patent to Muetschele, et al, it can be seen that the Examiner admitted that there is no direct transmission in this reference of impact from the striker to the end section of the tool (4), but instead the impacts are received by an intermediate punch (19) and then transmitted to the tool. In paragraph 9 of the Office Action it is stated that "...the Examiner takes the position that Muetschele, et al disclose the invention substantially as claimed, as discussed above, but show an impacting element (19) that is intermediate element the striker and the tool bit...". In contrast, in accordance with applicant's invention there is a direct transmission of the impacts to the tool or a tool bit. Therefore this feature clearly and patentably distinguishes the present invention from the solution proposed in the Muetschele, et al reference.

In the Muetschele, et al reference there is no blocking element which acts on the striker (2) as defined in Claim 9. The blocking element (47, 48) disclosed in the Muetschele, et al reference limits an axial movement of the intermediate punch (19) and thereby is not in a position to completely suppress the axial movement of the intermediate punch (19). This is associated with the technical objective of the blocking element (47, 48) to secure the impact damping device (42, 34, 44) for the intermediate punch (19) from axial falling out after the mounting. In contrast, the blocking element in accordance with the present invention is configured to provide a control of a striking frequency as

defined in Claim 9. In connection with this, it should be mentioned that the blocking element (47, 48) disclosed in the Muetschele, et al reference also adjusts striking frequency which follows from the striking energy and the axial movement play of the intermediate punch 19. This striking frequency is however neither controllable in the sense of “adjustable” of Claim 9, nor provides a control of a blocking time of the blocking element (47, 48). Therefore, this feature of the present invention which is now defined in Claim 9 is also not disclosed in the Muetschele, et al reference.

The U.S patent to Frauhammer discloses also a percussion mechanism with a striker (17) and an intermediate punch (18), which transmits the impact of the striker (17) operated by gas pressure to a not shown tool. In this sense, this reference corresponds to the Muetschele, et al reference, but does not disclose the new features of the present invention. The arrangement and function of the blocking element (23) in this reference are also similar to that of the Muetschele, et al reference. The second blocking element (31) which is referred to by the Examiner, serves for the support of a spring (27) which presses the guide barrel (13) in an idle position of the percussion mechanism in direction of the tool, so that the ventilation openings (26) are released and the air spring chamber (25) is aerated. With this aeration, the pressure drive of the striker (17) is deactivated. This has no connection whatsoever with the striking frequency in the operational condition, or in other words with the closed aeration openings (26), and therefore has nothing to do with the striking frequency and the blocking

element (31). This reference also does not teach the new features of the present invention which are now defined in Claim 9.

The U.S. patent publication application to Bongers-Ambrosious, et al discloses a further development of a percussion mechanism of a hammer drill. It includes a percussion mechanism (2) received in a guide barrel and a tool receptacle (4) provided on the guide barrel. The percussion mechanism (2) includes a striking body which is identified as a striker (3). The striking body (3) is interpreted as the striker corresponding to the applicant's invention. For a person skilled in the art, this interpretation causes a substantial uncertainty. In the present application, the striker is accelerated by a gas pressure in direction toward the tool. The accelerating force depends, in addition to the gas pressure level, on the pressure-affected surface. A person skilled in the art will also attempt to provide the pressure area on the striker which is as great as possible. The striker (3) in the Bongers-Ambrosious, et al reference has its smallest area section on the side which faces toward the gas pressure. This rather suggests that the striker (3) is accelerated by a mechanical contact force, such as for example an impact in the direction to the tool. If a person compares additionally the design of the striker (3) of the Bongers-Ambrosious, et al reference with the shape of the intermediate punch of the Frauhammer patent and in particular of the British reference to Muetschele, et al, then the interpretation of the striker (3) as an intermediate punch in the sense of the British reference to Muetschele, et al is clearly very likely. Therefore, it is believed that a combination of the features

from the Bongers-Ambrosious, et al reference with the previously discussed references would not produce the direct impact as defined in Claim 9 and would not lead to it as a matter of obviousness.

Also, the Bongers-Ambrosious, et al reference does not disclose a blocking element as defined in Claim 9. In this reference, as in the previously discussed references, a not shown blocking element is provided for axial stroke limit of the striker (3) as shown in Figure 1. A person of ordinary skill in the art who will familiarize himself with this reference would not find any hint or suggestion to combine it with the previously discussed references to arrive at the percussion mechanism as defined in Claim 9.

It is therefore respectfully submitted that Claim 9 should be considered as patentably distinguishing over the art and should be allowed.

The Examiner's attention is also respectfully directed to the features of new independent Claims 23-25 which define the features disclosed on page 4, lines 29-32 of the application and shown in Figures 1 and 2. In particular, it is stated in the aforementioned part of the specification that:

"The rearward motion of the striker (2) can also be reinforced by a compression spring (13) located on the front side oriented toward the tool bit (4), or by similarly acting mechanical (for instance pneumatic) or electrically acting device."

The features of these claims are not disclosed in the references and cannot be derived from them as a matter of obviousness.

Therefore, these claims should also be considered as patentably distinguishing over the art and should also be allowed.

In connection with the Examiner's opinion that Claims 17-21 deal with a non-elected invention, applicants wish to make the following remarks.


In accordance with the Examiner's election/restriction issues raised in paragraph 2 of the Office Action, applicants cancelled Claim 18 and amended Claim 17 to make it dependent on Claim 9. While Claim 9 defines the control of the striking frequency of the striker, Claim 17 defines the control unit which provides the same. It is therefore respectfully submitted that Claim 17 deals with the same invention.

As for the dependent claims, these claims depend on Claim 9, they share its allowable features, and therefore it is respectfully submitted that they should be allowed as well.

Reconsideration and allowance of the present application is most respectfully requested.

Should the Examiner require or consider it advisable that the specification, claims and/or drawings be further amended or corrected in formal respects in order to place this case in condition for final allowance, then it is respectfully requested that such amendments or corrections be carried out by Examiner's Amendment, and the case be passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance; he is invited to telephone the undersigned (at 631-549-4700).

Respectfully submitted,



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